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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,046	09/28/2001	Karl Mautz	SC0194WD	4300

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EXAMINER	
BLUM, DAVID S	
ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 04/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/966,046	MAUTZ ET AL.	
	Examiner	Art Unit	
	David S Blum	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 31-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *2,10,31-33 and 37* is/are allowed.

6)☒ Claim(s) *1,3-9,11-15,34-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

This action is in response to Amendment B paper #8, filed 03/18/03.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 5, 7 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Katsuyuki (JP 58-169149).

Katsuyuki teaches the device of claims 5, 7 and 35 in that a magnetic means (film 3) having a pattern (2) is formed on a glass substrate that may be on a semiconductor wafer (abstract, constitution) used to provide information such as lot number (identification). The pattern (2, figure 2) shows a series of regions and non-magnetic regions. The magnetic film is provided at the wafer peripheral (abstract, purpose) as in claims 7 and 35. Information (identification) is written in the film (abstract, constitution) as in claim 13.

Regarding the limitations of claim 5 where the magnetic means comprise regions having different magnetizations (claim 5) figure 2 of Katsuyuki shows the magnetic film with regions of different heights and widths, therefore showing regions having different magnetizations.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3-4, 9, and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuyuki (JP 58-169149).

Katsuyuki teaches the device of claims 1 and 3 as well as all of the positive steps of claims 9, and 11-14 except that a series of regions of magnetic and non-magnetic regions are configured to provide a code pattern within the region for carrying information. Katsuyuki teaches a magnetic means (film 3) having a pattern (2) is formed on a glass substrate that may be on a semiconductor wafer (abstract, constitution) used to provide information such as lot number. The pattern (2, figure 2) shows a series of regions and non-magnetic regions that are in strips or bars, the code (information) carried is considered a bar code as in claim 4. The magnetic film is provided at the wafer peripheral (abstract, purpose) as in claim 7. Information is written in the film (abstract, constitution) as in claim 13. It is obvious that information carried in the film is in a form of code. The film also masks the wafer (abstract, constitution) as in claim 14. The magnetic film is formed by deposition (paragraph 6) as in claim 12.

Regarding the limitations of claim 11 where the magnetic means comprise regions having different magnetizations and specifically mentioning sputtering (claim 11), figure 2 of Katsuyuki shows the magnetic film with regions of different heights and widths, therefore, showing regions having different magnetizations. Also, Katsuyuki teaches forming the film to by deposition, which would include sputtering (sputtering being a conventional deposition method).

5. Claims 6, 15 , and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuyuki (JP 58-169149) in view of Chang (US006197481B1) and Oishi (US006004405A).

Katsuyuki teaches the device of claims 6and 34 as well as all of the positive steps of claim 15 as recited above except for teaching a protective film over the magnetic film. Chang teaches forming a protective film over alignment marks to protect the marks from subsequent processing steps (abstract). Although an alignment mark is not the same as an identification mark containing data, it is similar in that it is a mark used in identifying a part of the wafer for processing. It would have been obvious to modify Katsuyuki with the teachings of Chang so that a protective film would provide protection for identifying marks during processing so that the marks could be read.

Oishi teaches various types of marks are used to identify wafers, including notches (alignment marks) and laser marks (background and bar codes column 2 line 4). Thus,

although the marks carry different information, Oishi teaches them to have an art recognized equivalence.

It would be obvious to one skilled in the requisite art at the time of the invention to modify Katsuyuki by using a protective film as taught by Chang with reasonable expectation of producing an identification mark that is readable after subsequent processing steps.

6. Claims 8 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuyuki (JP 58-169149) in view of Oishi (US006004405A).
Katsuyuki teaches the device of claims 8 and 36 as recited above except for placing the identification mark (information for identification) on the inner region of a wafer where the vacuum chuck would engage the wafer. Oishi teaches forming an identification mark on the wafer side (figure 1A) where it will not interfere with the effective area of the wafer. Therefore it is obvious that the area where the vacuum chuck is employed may be used as the mark area as it is not an effective area (active area) of the wafer, but a peripheral area (constitution). Katsuyuki teaches forming the magnetic means in a peripheral area on the wafer. Thus Katsuyuki is teaching that the magnetic means be placed in an area on the wafer (surface or side) and Oishi teaches that this can be any area which is not an effective (active) area. The area where the chuck engages the wafer in the instant application is a peripheral area on the wafer and not an active area. Regarding the limitation where the vacuum chuck has magnetic reading capabilities; that is a limitation on the reading apparatus, not the semiconductor device and is given

no weight. The functional use of the magnetic means does not change whether or not the vacuum chuck can read the magnetic means or a separate piece on the apparatus is used (see MPEP 2114 regarding functional language).

It would have been obvious to one skilled in the requisite art at the time of the invention to modify Katsuyuki by including the vacuum chuck area as part of the peripheral area as taught by Oishi with reasonable expectation of producing an identification mark that is in a peripheral region and does not interfere with the effective production area.

Allowable Subject Matter

7. Claims 2, 10, 31-33 and 37 are allowed.

8. The following is an examiner's statement of reasons for allowance:

Claims 2 and 10 limit the device and formation of the device to forming the magnetic means by ion implantation. In the case of claim 2, where the process step of implantation carries little weight, the limitation is viewed as having the magnetic means in the substrate rather than on the substrate. Katsuyuki forms the magnetic means by deposition on the substrate but does not teach or suggest implanting the magnetic means into the substrate.

Claims 31-33 are allowed as being dependent upon allowed claim 2.

Claim 37 is allowed as being dependent upon allowed claim 10.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

9. Applicant's arguments with respect to claim1, 3-9, 11-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Blum whose telephone number is (703)-306-9168 and e-mail address is David.blum@USPTO.gov .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr., can be reached at (703)-308-4940. Our facsimile number for Before-Final Communications is (703)- 872-9318 and for After-Final Communications is (703)- 872-9319. The facsimile number for customer service is (703)-872-9317. Our receptionist's number is (703)-308-0956.

David S. Blum
April 23, 2003

CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
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